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**UTILITY  
PATENT APPLICATION  
TRANSMITTAL**  
*(Only for new nonprovisional applications under 37 C.F.R. 1.53(b))*

|                        |                     |
|------------------------|---------------------|
| Attorney Docket No.    | Not Yet Assigned    |
| First Inventor         | Yongming XIA et al. |
| Title                  | "Vertical Filter"   |
| Express Mail Label No. | EL 694387225 US     |

17858 U.S. PTO  
10/664765  
09/17/03


**APPLICATION ELEMENTS***See MPEP chapter 600 concerning utility patent application contents.*
**ADDRESS TO:**  
 Commissioner For Patents  
 Mail Stop Patent Application  
 P.O. Box 1450  
 Alexandria VA 22313-1450

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Fee Transmittal Form (e.g., PTO/SB/17)<br><i>(Submit an original and a duplicate for fee processing)</i>  | 7. <input type="checkbox"/> CD-ROM or CD-R in duplicate, large table or Computer Program ( <i>Appendix</i> )   |
| 2. <input type="checkbox"/> Applicant claims small entity status.<br>See 37 CFR 1.27.  | 8. Nucleotide and/or Amino Acid Sequence Submission<br><i>(if applicable, all necessary)</i>   |
| 3. <input checked="" type="checkbox"/> Specification [Total Pages 14]<br><i>(preferred arrangement set forth below)</i> <ul style="list-style-type: none"> <li>- Descriptive title of the invention</li> <li>- Cross Reference to Related Applications</li> <li>- Statement Regarding Fed sponsored R &amp; D</li> <li>- Reference to sequence listing, a table, or a computer program listing appendix</li> <li>- Background of the Invention</li> <li>- Brief Summary of the Invention</li> <li>- Brief Description of the Drawings (<i>if filed</i>)</li> <li>- Detailed Description</li> <li>- Claim(s)</li> <li>- Abstract of the Disclosure</li> </ul> | a. <input type="checkbox"/> Computer Readable Form (CRF)   |
| 4. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) [Total Sheets 6 ]  | b. <input type="checkbox"/> Specification Sequence Listing on: <ul style="list-style-type: none"> <li>i. <input type="checkbox"/> CD-ROM or CD-R (2 copies); or</li> <li>ii. <input type="checkbox"/> paper</li> </ul> |
| 5. Oath or Declaration [Total Pages 3 ]  | c. <input type="checkbox"/> Statements verifying identity of above copies  |
| a. <input type="checkbox"/> Newly executed (original or copy)  | 9. <input checked="" type="checkbox"/> Assignment Papers (cover sheet & doc(s)) (COPY)   |
| b. <input checked="" type="checkbox"/> Copy from a prior application (37 CFR 1.63(d))<br><i>(for continuation/divisional with Box 18 completed)</i>  | 10. <input type="checkbox"/> 37 CFR 3.73(b) Statement<br><i>(when there is an assignee)</i> <input type="checkbox"/> Power of Attorney   |
| i. <input type="checkbox"/> <u>DELETION OF INVENTOR(S)</u><br>Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).  | 11. <input type="checkbox"/> English Translation Document ( <i>if applicable</i> )   |
| 6. <input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76  | 12. <input checked="" type="checkbox"/> Information Disclosure Statement (IDS)/PTO-1449 <input type="checkbox"/> Copies of IDS Citations   |
|  | 13. <input checked="" type="checkbox"/> Preliminary Amendment  |
|  | 14. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503)<br><i>(Should be specifically itemized)</i>   |
|  | 15. <input type="checkbox"/> Certified Copy of Priority Document(s)<br><i>(if foreign priority is claimed)</i>   |
|  | 16. <input type="checkbox"/> Nonpublication Request under 35 U.S.C. 122<br>(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.   |
|  | 17. <input checked="" type="checkbox"/> Other: <u>Check in the amount of \$912.00 for fee.</u>   |

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

 Continuation     Divisional     Continuation-in-part (CIP)    of prior application No: 10/237,554
Prior application information: Examiner Robert J. Popovics Art Unit: 1724

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

**19. CORRESPONDENCE ADDRESS**

|   |   |           |                                   |   |
|---|---|-----------|-----------------------------------|---|
| <input checked="" type="checkbox"/> Customer Number or Bar Code Label | <b>28289</b>  |           | or                                | <input type="checkbox"/> Correspondence address below<br><i>(Insert Customer No. or Attach bar code label here)</i> |
| Name  | John W. McIlvaine<br>Webb Ziesenhein Logsdon Orkin & Hanson, P.C.                   |           |                                   |   |
| Address   | 700 Koppers Building<br>436 Seventh Avenue  |           |                                   |   |
| City  | Pittsburgh  | State     | PA                                | Zip Code  |
| Country   | United States   | Telephone | 412-471-8815                      | Fax   |
| Name (Print/Type)   | John W. McIlvaine   |           | Registration No. (Attorney/Agent) | 34,219  |
| Signature   |  |           | Date                              | September 17, 2003  |

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you are required to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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# FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

 Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$912.00)

| Complete if Known    |                     |
|----------------------|---------------------|
| Application Number   | Not Yet Assigned    |
| Filing Date          | Herewith            |
| First Named Inventor | Yongming XIA et al. |
| Examiner Name        | Not Yet Assigned    |
| Art Unit             | Not Yet Assigned    |
| Attorney Docket No.  | 2541-031411         |

## METHOD OF PAYMENT (check all that apply)

 Check  Credit Card  Money Order  Other  None
 Deposit Account:

|                        |         |
|------------------------|---------|
| Deposit Account Number | 23-0650 |
| Deposit Account Name   |         |

## The Commissioner is authorized to: (check all that apply)

- Charge fee(s) indicated below  Credit any overpayments  
 Charge any additional fee(s) during the pendency of this application  
 Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

## 1. BASIC FILING FEE

| Large Entity            | Small Entity | Fee Description | Fee Paid |
|-------------------------|--------------|-----------------|----------|
| Fee Code                | Fee Code     | (S)             | (S)      |
| 1001                    | 2001         | 750             | 375      |
| 1002                    | 2002         | 330             | 165      |
| 1003                    | 2003         | 520             | 260      |
| 1004                    | 2004         | 750             | 375      |
| 1005                    | 2005         | 160             | 80       |
| SUBTOTAL (1) (\$750.00) |              |                 |          |

## 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

|                    |    | Extra Claims | Fee from below | Fee Paid   |
|--------------------|----|--------------|----------------|------------|
| Total Claims       | 29 | -20** = 9    | X \$18.00      | = \$162.00 |
| Independent Claims | 1  | -3** = 0     | X \$42.00      | = \$0.00   |
| Multiple Dependent |    |              | \$0            | = \$162.00 |

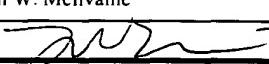
| Large Entity            | Small Entity | Fee Description |
|-------------------------|--------------|-----------------|
| Fee Code                | Fee Code     | (S)             |
| 1202                    | 2202         | 18 9            |
| 1201                    | 2201         | 84 42           |
| 1203                    | 2203         | 280 140         |
| 1204                    | 2204         | 84 42           |
| 1205                    | 2205         | 18 9            |
| SUBTOTAL (2) (\$162.00) |              |                 |

\*\*or number previously paid, if greater; For Reissues, see above

| Large Entity                      | Small Entity | Fee Description | Fee Paid   |
|-----------------------------------|--------------|-----------------|--|
| Fee Code                          | Fee Code     | (S)             | (S)  |
| 1051                              | 2051         | 130 65          | Surcharge - late filing fee or oath  |
| 1052                              | 2052         | 50 25           | Surcharge - late provisional filing fee or cover sheet                     |
| 1053                              | 1053         | 130 130         | Non-English specification  |
| 1812                              | 1812         | 2,520 2,520     | For filing a request for ex parte reexamination                            |
| 1804                              | 1804         | 920* 920*       | Requesting publication of SIR prior to Examiner action                     |
| 1805                              | 1805         | 1,840* 1,840*   | Requesting publication of SIR after Examiner action                        |
| 1251                              | 2251         | 110 55          | Extension for reply within first month                                     |
| 1252                              | 2252         | 410 205         | Extension for reply within second month                                    |
| 1253                              | 2253         | 930 465         | Extension for reply within third month                                     |
| 1254                              | 2254         | 1,450 725       | Extension for reply within fourth month                                    |
| 1255                              | 2255         | 1,970 985       | Extension for reply within fifth month                                     |
| 1401                              | 2401         | 320 160         | Notice of Appeal   |
| 1402                              | 2402         | 320 160         | Filing a brief in support of an appeal                                     |
| 1403                              | 2403         | 280 140         | Request for oral hearing   |
| 1451                              | 1451         | 1,510 1,510     | Petition to institute a public use proceeding                              |
| 1452                              | 2452         | 110 55          | Petition to revive - unavoidable   |
| 1453                              | 2453         | 1,300 650       | Petition to revive - unintentional   |
| 1501                              | 2501         | 1,300 650       | Utility issue fee (or reissue)   |
| 1502                              | 2502         | 470 235         | Design issue fee   |
| 1503                              | 2503         | 630 315         | Plant issue fee  |
| 1460                              | 1460         | 130 130         | Petitions to the Commissioner  |
| 1807                              | 1807         | 50 50           | Processing fee under 37 CFR 1.17(q)  |
| 1806                              | 1806         | 180 180         | Submission of Information Disclosure Stmt                                  |
| 8021                              | 8021         | 40 40           | Recording each patent assignment per property (times number of properties) |
| 1809                              | 2809         | 750 375         | Filing a submission after final rejection (37 CFR 1.129(a))                |
| 1810                              | 2810         | 750 375         | For each additional invention to be examined (37 CFR 1.129(b))             |
| 1801                              | 2801         | 750 375         | Request for Continued Examination (RCE)                                    |
| 1802                              | 1802         | 900 900         | Request for expedited examination of a design application                  |
| Other fee (specify) _____         |              |                 |  |
| *Reduced by Basic Filing Fee Paid |              |                 |  |
| SUBTOTAL (3) (\$)                 |              |                 |  |

## SUBMITTED BY

Complete (if applicable)

|                   |   |                                   |        |           |                    |
|-------------------|---|-----------------------------------|--------|-----------|--------------------|
| Name (Print/Type) | John W. McIlvaine   | Registration No. (Attorney/Agent) | 34,219 | Telephone | 412-471-8815       |
| Signature         |  |                                   |        | Date      | September 17, 2003 |

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PATENT APPLICATION  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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IN RE APPLICATION OF:

ATTORNEY'S DOCKET NUMBER

Yongming XIA, James E. THOMPSON and  
Jeffrey S. DEVINE

2541-031411

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ENTITLED

VERTICAL FILTER

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Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

EXPRESS MAIL CERTIFICATE

"Express Mail" Label Number EL694387225US

Date of Deposit September 17, 2003

I hereby certify that the following attached paper or fee

UTILITY PATENT APPLICATION TRANSMITTAL (1 p. in trip.);

FEE TRANSMITTAL FOR FY 2003 (1 p. in trip.);

PRELIMINARY AMENDMENT (8 pp.)

SPECIFICATION (14 pp.);

DRAWINGS (6 pp.);

DECLARATION AND POWER OF ATTORNEY (3 pp.-*Copy*)

ASSIGNMENT (4 pp.-*Copy*)

INFORMATION DISCLOSURE STATEMENT AND FORM PTO/SB/08A (4 pp.)

and a CHECK IN THE AMOUNT OF \$912.00 FOR FEE.

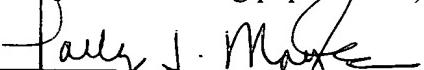
is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. §1.10 on the date indicated above and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Polly J. Moyles

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